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1. The various Soviet institutions specializing in research and experimentation in the field of railway transportation are under the administrative authority of the Ministry of Transportation (Railways). The following report discusses these institutions.

2. Academy of Railway Transportation: Location - Moscow; Director - M. U. Obyden.

   This academy was established in 1947 by order of the Council of Ministers of the USSR. Its function is to prepare personnel to supervise the operation of railway lines. Courses last two years. Enrollment is fixed at 120, 60 of whom are new students each year. Entrance to this institute is granted only to persons who have completed higher education and have spent a minimum of seven years in the field of supervision of railway transport. Aside from courses in the planning and supervision of railway lines and rail movements, the curriculum includes courses in dialectic materialism, political economy, statistics, accounting, industries connected with the construction of transportation equipment, principles of Soviet law, international communications, and the various means of transportation and their interdependence.

3. The Institute of Scientific Research in Railway Transport: Location - Moscow; Director - T. S. Khachaturov.

   This institution was established in 1918. It is an affiliate of the Academy of Sciences. Under its control there are a number of laboratories which carry out investigations in various railway techniques. One of its experimental installations is a circular railway used for the testing of the traction of locomotives. Persons admitted to this institute must be over forty years old, must have completed their secondary education, and must have shown capacity for scientific research. There were 161 research projects planned for 1948. Of these, [illegible] had not been forecast in the Five Year Plan.

4. Research is carried out in the following principal fields:

   a. the mechanization of loading and unloading facilities

   b. pre-heating of water

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c. automatic signalling

d. radio links

e. stabilization of transmitters

f. gearing of traction motors

g. modernization of thermomotors

h. improvement in the construction of brakes

i. systemizing of repair methods in car repair shops

j. soldering

k. protection against snow

5. The Institute is composed of the following sections:

a. Diesel Motors

b. Water Distribution

c. Energy

d. Electrification

e. Economics of Locomotive Operation

f. Economics of Railway Car Operation

g. Movement of Rolling Stock and Central Blocking Services

h. Economics of Railways and Railway Construction

i. laboratories for experiments with thermo and electric machines, Diesel motors, water distribution, the filtering of water, energy, gassification, electronics, automatic stops and automatic regulating devices, long distance transmissions, and protection against snow, water, and sand.

6. Personnel of the Institute obtain their B.S. degrees by writing theses.

Advanced Schools of the Ministry of Transportation (Railways)

7. The Ministry of Transportation (Railways) controls 12 advanced schools which are called Institutes.

a. The L. M. Kaganovich Institute of Dnepropetrovsk for Railway Transport Engineers: There are five departments or faculties at this institute, among which are departments in Construction Mechanics, Traffic and Loading, Bridges and Tunnels, and Energy. Research is carried out in various fields: methods of protecting boilers and locomotives against corrosion, the stresses caused by the traction force for various types of couplings and at various speeds, and the study of combustion and heat transfer in locomotive boilers.

b. Leningrad Institute of Railway Transport Engineers, awarded the Order of Lenin: This school is composed of the following six faculties: Mechanics, Construction, Energy, Traffic and Loading, Bridges and Tunnels, and Industrial Transport. Courses last five years. In 1948, 700 engineers were graduated from this school; of these, 160 were transportation engineers, 70 were electrical engineers, and 60 were construction engineers specializing in bridges and tunnels. Near the Leningrad Institute in 1947 a new institute was set up to study bridge construction. One of its objectives is research in the field of bridges built on welded structures. In this institute there are the following sections: Electric Welding, Foundations and Superstructures, Steel Bridges, and Hydraulic Engineering. Eighteen subjects of research are projected for 1948.

c. Leningrad Electrotechnical Institute for Signal and Communications Engineers: Its faculties are as follows: Movement of Rolling Stock, and Central Services of Automatic Blocking Systems. Subjects taught here include telephone, telegraph, and radio communications for rail transport.

d. The Stalin Institute for Railway Engineers in Moscow, awarded the Order of Lenin: Director - Parfenov. This institute consists of five faculties: Construction, Traffic and Loading, Bridges and Tunnels, Military Engineering, and Industrial Transport. There are 21 laboratories and 51 special study offices connected with this institute. Courses last five years. In 1947, 216 engineers were graduated. Among the research projects carried out were: experimental research for removing excess mechanical play in moving parts, a mechanical method for spreading ballast under railway ties, the strengthening of earthen embankments, the testing of the capacity of bridges, the influence of various materials or chemical substances on the formation of incrustations, and research in the correlation between the structure and the activity of catalyzers.

e. F. E. Dzerzhinski Electronics Institute of Moscow for Railway Engineers, awarded the Order of the Red Banner: The three faculties in this institute are as follows: Mechanics, Energy, and Movement of Rolling Stock and Central Service of Blocking System. Courses last five years. In 1947, 110 engineers were graduated, of which 51 were in the School of Energy and 59 were in the School of Mechanics. Research was carried out on a projected new locomotive and a new method for the cleaning of the interiors of tanks. Of 59 research projects undertaken in 1947 28 had been completed by the end of the year.

f. Novosibirsk Institute for Military Engineers of Railway Transport: The three faculties at this school are: Construction, Bridges and Tunnels, and Traffic and Loading. The length of the course is five years and nine months. Those admitted to this institute must be Soviet citizens between the ages of 17 and 35 who have finished their secondary education and who are eligible for military service. Candidates must pass entrance examinations in the Russian language, literature, mathematics, physics, chemistry (for the school of Construction), industrial design and design (for the schools of Bridges and Tunnels and Traffic and Loading), and a foreign language.

g. The Rostov Institute for Railway Engineers: This institute has two schools, Mechanics and Energy.

h. The Tashkent Institute for Railway Engineers: There are three schools here: Construction, Mechanics, and Traffic and Loading.

i. The Lenin Institute at Tbilisi (Tiflis) for Railway Engineers: The four faculties are: Construction, Mechanics, Traffic and Loading, and Bridges and Tunnels.

j. Tomsk Electro-mechanical Institute for Railway Engineers: Its three faculties are: Mechanics, Energy, Movement of Rolling Stock and Central Blocking System.

k. Khabarovsk Institute for Railway Engineers: Its departments are Construction, Mechanics, and Traffic and Loading.

l. S. M. Kirov Institute of Kharkov for Railway Engineers: Its departments are Mechanics, Traffic and Loading, Military Engineering, and Construction.

8. These institutes admit persons who have finished their full secondary education in a technical school (tekhnikum) or similar institute. Courses last five years and graduating students receive the title of Railway Engineer in the field in which they did their work.

9. The institutes also recruit teachers by means of competitive examinations. Candidates for teaching positions must be citizens of the USSR, 40 years or over in age, and graduates of a secondary school. They must have shown evidence of ability in scientific research.

10. Ordinarily about 2,000 engineers receive their degrees each year, but in the course of the last two years of the Five Year Plan about 8,000 new engineers have finished their academic training.

Technical Schools (Tekhnikums) of the Ministry of Transportation (Railways)

11. Throughout the Soviet Union the Ministry of Transportation (Railways) has technical schools which prepare technicians qualified in railway transportation in special fields relating to the economics and techniques of railway transport. To be admitted to these technical schools, candidates must pass examinations based on subjects studied in their first seven years of school.

12. In Moscow there are four of these technical schools or tekhnikums.

a. The October Revolution Tekhnikum for Railway Transport: This school has two sections: Traffic and Loading (four-year course) and Efficiency of Refrigeration ($3\frac{1}{2}$ year course). Diplomas from the Traffic and Loading Section of this school entitle the holder to serve in the capacity of a station master, a dispatcher, either at a station or a port, a technical engineer at a technical post or station, an engineer for the regulation of traffic, a loading engineer, or a chief of a depot. Diplomas from the School of Efficiency of Refrigeration, on the other hand, permit the holder to direct the shipping of perishable commodities, and to control the transport and storage of all products transported by refrigerator cars.

b. A. A. Andreyev Tekhnikum of Moscow for Railway Transport

This school has six sections, among which are the following:

(1) Railway Telephony and Telegraphy Electricians Section

(2) Signal & Central Blocking System Electricians Section

(3) Section for the Electricians of Electric-Powered Trains

(4) Section for the Electricians of Electrified Rail Lines

(5) Section for Railway Efficiency

(6) Section for Railway Bed Construction

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c. Dzerzhinski Tekhnikum of Moscow for Railway Transport: This school has three sections: Mechanics, Technology, and Thermic Energy. The Mechanics Section prepares steam & Diesel locomotive mechanics. The Technological Section prepares electric and acetylene torch welders. The Thermic Energy Section prepares technicians in thermic energy.

d. The Moscow Tekhnikum for Financial Planning in Railway Transportation: Its two sections are the Financial Planning Section (a two-year course) and the Supply of Technical Equipment & Material Section (a four-year course). Graduates are eligible to work as financial planners and specialists in all branches of transportation.

13. Tekhnikums are under the control of the Section of Practical Education, which in turn is controlled by the Central Directorate of Educational Institutions of the Ministry of Transportation (Railways). The Chief of the Section is M. Ya. Beldusov, who is reportedly also the chief of the Central Directorate of Educational Institutions.